Allied Telesis

AT-9000/28

Managed Layer 2 Gigabit Ethernet ECO-Switch

AT-9000/28

28 port Gigabit managed 'Green' switch with 24 port 10/100/1000Mbps fixed configuration and 4 additional 100/1000Mbps SFP ports in combination with 10/100/1000T ports

Overview

One of a series of high performance Gigabit Ethernet switches from Allied Telesis. The AT-9000/28 provides high performance Layer 2 switching at an affordable fixed configuration platform. The switch brings advanced enterprise features to a more affordable level while supporting the changing needs of the SMB market space to improve the delivery of converged data. Support for jumbo Ethernet frames enables higher throughput of time sensitive data.

Environmentally Friendly ECO-Switch

In keeping with our commitment to environmentally friendly processes and products, the AT-9000/28 is the first of our new green range of products designed to reduce power consumption, minimize hazardous waste and even reduce office noise pollution. Among many features including the use of high efficiency power supplies, and low power chipsets we have also included an ECO-Switch button on the front panel of the AT-9000/28 switch. This allows you to conserve additional power by turning off the port and MODE LEDs when they are not required.

Low Power Consumption with Near Silent Operation

Specifically designed to be usable in a classroom or retail store environment the AT-9000/28 uses the latest in low power technologies to minimize power consumption and operational noise.

Ideal Branch Office and Wiring Closet Connectivity

Powerful line rate performance makes this switch ideal for branch offices or the wiring closet of larger offices. The state-of-the art QoS capability of this product ensures reliable delivery of advanced network services such as voice and video, while effectively controlling the continually increasing traffic needs found in today's networks.

Easy Access Networking

Featuring an industry standard CLI and Allied Telesis' intuitive featured Web interface the advanced features of the AT-9000/28 are accessible to a wide range of system administrators. The well known CLI and Web interfaces significantly reduce learning time and minimize the cost of deployment.

Secure Management

Only authorized administrators can access the management interface of the AT-9000/28. Protocols such as SNMPv3 facilitate this protection of your network with local or remote connections.

Securing the Network Edge

To ensure the protection of your data, it is important to control access to your network. Protocols such as IEEE 802.1x port-based authentication guarantee that only known users are connected to the network. Unknown users who physically connect can be isolated to a pre-determined part of your network offering guests such benefits as Internet access while ensuring the integrity of your private network data.

Key Features

Easy, Well Known Management

- Industry standard CLI
- Simple intuitive, Allied Telesis Web interface
- SNMP

Ideal Product for Classroom or Retail Environment

- 28 active ports
- Lower power consumption
- Near silent operation

Securing the Network at its Most Vulnerable Point

- IEEE 802.1x and port security (limited/dynamic)
- IEEE 802.1x basic port mode
- IEEE 802.1x multiple host mode
- IEEE 802.1x EAP-MD5
- Radius client
- SSH server

All the QoS Needed for an Open Office, Classroom or Retail Store Environment

- Eight priorities queues
- IEEE 802.1p for Layer 2 QoS

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Technical Specifications

Physical Interface
24 10/100/1000T ports for copper connectivity and 4 SFP or 10/100/1000T combo ports
RJ-45 console port

System Capacity
128MB RAM
16MB flash memory
8K MAC address

Maximum Bandwidth
Non-blocking for all packet sizes

Throughput	41.6Mpps
Switching capacity	56Gbps
Switch fabric speed	62Gbps

Supports 9216 jumbo packets

Latency

10Mbit	> 78.77 usec
100Mbit	> 11.25 usec
1000Mbit	> 3.79 usec

Port Configurations
Auto-negotiation, duplex, MDI/MDI-X
IEEE 802.3x flow control / back pressure
Head of Line (HoL)

Storm Control
Broadcast, multicast and unicast (DLF)

Spanning-Tree Support

IEEE 802.1D	Spanning-Tree Protocol
IEEE 802.1w	Rapid Spanning-Tree

Pass-through BPDU

Link Aggregation
Static port trunk
IEEE 802.3ad LACP link aggregation
Support for 12 groups per device
Trunk can support up to eight members per group

VLANs
Supports up to 4094 VLAN IDs
Support for 255 active VLANs
Port-based
IEEE 802.1Q VLAN tag
GARP
GVRP
GMRP

General Protocols
MAC address aging
Port mirroring
RFC 826 ARP
DHCP static IP configuration
RFC 2131 DHCP client

Administration
Web-based GUI
Industry standard CLI
RFC 854 Telnet
Network Time Protocol
HTTP
TFTP

Quality of Service (QoS)
IEEE 802.1p QoS
Eight priority queues
Strict priority and weighted round robin

Multicast Standards
Layer 2 multicast forwarding and filtering up to 256 groups
IGMPv1 and IGMPv2

Network Management

RFC 1157	SNMPv1/v2c
RFC 2570	SNMPv3
RFC 1215	SNMP traps
RFC 1213	MIB-II
RFC 1573	Extended interface MIB
RFC 1757	RMON 4 groups: Stats, History, Alarms, Events

Security
Port security (limited/dynamic)

IEEE 802.1x	Basic port base
IEEE 802.1x	Multiple host mode
IEEE 802.1x	EAP-MD5
RFC 2865	Radius client

SSH server

Power Specifications

AC input electrical ratings	100-240V AC, 1A
Frequency	50/60Hz
Maximum DC current	3.5A
Maximum power consumption	30.74W [1]
Typical power consumption in eco friendly mode	29.58W
Power supply efficiency	83%
Heat dissipation	104.09BTU /hours
Maximum acoustic noise	37.4 dB

Compliance Standards

IEEE 802.3	10T
IEEE 802.3u	100TX with auto-negotiation
IEEE 802.3ab	1000T Gigabit Ethernet

100FX SFP support
1000X SFP support

Environmental Specifications

Operating temp.	0°C to 40°C (32°F to 104°F)
Storage temp.	-25°C to 70°C (-13°F to 158°F)
Operating humidity	5% to 90% (non-condensing)
Storage humidity	5% to 95% (non-condensing)

Operating altitude range, up to 3,000 meters (9,843 feet)

Safety and Electromagnetic Emissions Certifications

EMI	FCC Class A, CISPR 22 Class A, EN55022 Class A, C-TICK, VCCI
Immunity	EN55024, EN61000-3-2 and EN61000-3-3
Safety	UL 60950 (cULus), EN60950-1 (TUV)
Quality and reliability	MTBF — 340,000 hours

RoHS Standards
Compliant with European, China and RoHS standards

Package Description
AT-9000/28 switch
AC power cord
Management cable (RJ-45 to DB-9)
Rubber feet for desktop installation and 19" rack-mountable hardware kit accessories
Install guide and CLI user's guide available on the CD and at www.alliedtelesis.com

Physical Specifications

Dimensions (W x D x H)	44cm x 25.6cm x 4.4cm (17.33" x 10.08" x 1.73")
Weight	3.62 kg (8.00 lbs)

[1] Typical power is measured running 20/28 ports using 30m cable on a sample unit.

AT-9000/28 | Managed Layer 2 Gigabit Ethernet ECO-Switch

AT-9000/28 switch back panel

Ordering Information

AT-9000/28-xx
28 port Gigabit managed switch with 24 port 10/100/1000Mbps fixed configuration and 4 additional 100/1000Mbps SFP ports in combination with 10/100/1000T ports

Where xx = 10 for US
20 for no power cord
30 for UK
40 for Australian
50 for European

Accessories

Small Form Pluggables (SFPs)

AT-SPEX
Multi-mode Fiber, 2km, GbE, SFP, 1310nm

AT-SPSX
Multi-mode Fiber, GbE Small Form-factor Pluggable (SFP) 850nm

AT-SPFX/2
Multi-mode Fiber, 2km, 100FX, SFP, 1310nm

AT-SPFX/15
Multi-mode Fiber, 15km, 100FX, SFP, 1310nm

AT-SPFX/40
Multi-mode Fiber, 40km, 100FX, SFP, 1310nm

AT-SPLX10
Single-mode Fiber, 10km, GbE SFP, 1310nm

AT-SPLX40
Single-mode Fiber, 40km, GbE SFP, 1310nm

AT-SPLX40/1550
Single-mode Fiber, 40km, GbE SFP, 1550nm

AT-SPZX80
Single-mode Fiber, 80km, GbE SFP, 1550nm

AT-SPZX80/xxxx
Single-mode Fiber, CWDM, 80km GbE SFP

CWDM wavelengths:
Where xxxx = 1470
1490
1510
1530
1550
1570
1590
1610

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